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ABSTRACT

The Purdue Teacher Opinionaire (PTO) and the School Survey (SS) were studied to determine their comparative effectiveness in measuring similar aspects of teacher morale. Elementary and secondary school teachers from a Wisconsin middle-class school district completed both instruments. Analysis of the data revealed six significant canonical correlations relating the two scales. Four of these variates proved to be interpretable: supportive relations, pay and benefits, work load, and facilities and equipment. Each variate is discussed and the elements are presented in individual tables. The study indicates that teacher morale can be predicted from a number of factors common to both instruments. (LR)

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A COMPARISON BETWEEN TWO STANDARDIZED MEASURES OF TEACHER MORALE

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The concept of teacher morale has been the subject of much inquiry. Morale is a nebulous topic, and researchers begin their investigations of it with a variety of assumptions. One schema we are currently investigating relates motivational processes to organizational dimensions in the formation of morale. The approach assumes that teachers have inherent and acquired needs and that some of these needs can be gratified, within the framework of their perceptions and expectations, by specific dimensions of their work environment. We hypothesize a dynamic complexity in the structure of morale, a complexity which best lends itself to the factor analytic approach to definition. Our schema defines morale ultimately in terms of specific human needs and individual perceptions of the environmental sources for the satisfaction of these needs.

Two studies based on this approach have appeared in the literature. The first, by Bentley and Remple (1967), reported on the construction and revisions of the Purdue Teacher Opinionaire (PTO), a 100-item inventory which measures 10 factors associated with satisfaction in the teaching role. Each factor contains from five to 20 items which are scored along a four-point scale: agree, probably agree, probably disagree, and disagree. Test-retest correlations for these factors range from .62 to .88 and are predominately above the .80 level.

Factor definitions for the revised form of the PTO are given in the test manual as follows:

Factor 1 - "Teacher Rapport with Principal" deals with the teacher's feelings about the principal -- his professional competence, his interest in teachers and their work, his ability to communicate, and his skill in human relations.

Factor 2 - "Satisfaction with Teaching" pertains to teacher relationships with students and feelings of satisfaction with teaching. Generally, on this factor, the high morale teacher loves to teach, feels competent in his job, enjoys his students, and believes in the future of teaching as an occupation.

Factor 3 - "Rapport Among Teachers" focuses on the [illegible] with other teachers. The items here solicit the teacher's opinion regarding the cooperation, preparation, ethics, influence, and competency of his peers.

Factor 4 - "Teacher Salary" pertains primarily to the teacher's feelings about salaries and salary policies. Are salaries based on merit, adequate? Do they compare favorably with salaries in other school districts? Are salary policies administered fairly and justly, and do teachers have a say in the development of these policies?

Factor 5 - "Teacher Load" deals with such matters as [illegible] clerical work, "red tape," community demands on [illegible], extra-curricular load, and keeping up-to-date professionally.

Factor 6 - "Curriculum Issues" solicits teacher reactions to the adequacy of the school program in meeting student needs, in providing for individual differences, and in preparing students for effective citizenship.

Factor 7 - "Teacher Status" samples feelings about the [illegible] and benefits afforded by teaching. Several of the items refer to the extent to which the teacher feels he is an accepted member of the community.

Factor 8 - "Community Support of Education" deals with the extent to which the community understands and is willing to support a sound educational program.

Factor 9 - "School Facilities and Services" has to do with the adequacy of facilities, supplies and equipment, and the efficiency of the procedures for obtaining materials and services.

Factor 10 - "Community Pressures" gives special attention to community expectations with respect to the teacher's personal standards, his participation in outside-school activities, and his freedom to discuss controversial issues in the classroom.

Coughlan (1970) recently reported on the construction and revision of the School Survey (SS), a 120-item questionnaire which reflects the opinions and attitudes of teachers toward 14 factors in their work environment. Each factor contains from six to 10 items which are scored along a three-point scale: agree, ? (undecided), and disagree. Internal consistency reliability estimates for these factors (Kuder-Richardson Formula 20) range from .52 to .84 with a median of .70.

Factor definitions for the revised form of the School Survey (Coughlan, 1966) are provided as follows:

Factor 1 - Administrative Practices assesses the teacher's perceptions of board-administration-teacher relationships. It includes his evaluation of the technical, administrative, and interpersonal relations aspects of the work at the executive level of the system.

Factor 2 - Professional Work Load is concerned with the amount and variety of professional work the teacher is required to do. Also included are items dealing with the concern and cooperation given the teacher by the administration in relation to the work load.

Factor 3 - Non-Professional Work Load relates to the teacher's opinion concerning the amount and type of non-professional duties to be performed as well as with administrative efforts to reduce elements of this type of work.

Factor 4 - Materials and Equipment provides information on the teacher's opinions concerning the selection, quality, quantity, and use of instructional materials, aids, and equipment in the school.

Factor 5 - Buildings and Facilities pertains to the physical working conditions within and immediately surrounding the school. It also measures the teacher's feelings about the adequacy of plant facilities and administrative interest in improving them.

Factor 6 - Educational Effectiveness deals with the teacher's perceptions of the effectiveness of the school program in meeting appropriate educational needs of students and the support given the school by members of the community.

Factor 7 - Evaluation of Students measures the teacher's attitudes toward student evaluation and reporting procedures. Also included are the school's policies governing promotion, retention, and the provisions made for teacher-student consultation following reporting periods.

Factor 8 - Special Services asks whether the school provides special services which are adequate to meet the needs of students. It deals with both the availability of programs and with interpersonal relations between teachers and special service personnel.

Factor 9 - School-Community Relations reflects the teacher's understanding of the roles of the board, administration, and community in school system operations. It seeks his opinions as to whether existing relationships are adequate to provide an effectively functioning school system.

Factor 10 - Principal Relations is concerned with the teacher's evaluation of his principal as a group leader. It focuses on work organization and improvement, communication effectiveness, and supervisory practices dealing with the work problems and potential of the teacher.

Factor 11 - Colleague Relations deals with the friendliness of teachers and with social relations between cliques and groups in the school. It is concerned with both work and social relations.

Factor 12 - Voice in Educational Program measures the teacher's satisfaction with his degree of involvement in designing and developing the school's educational program. It deals with procedures for curriculum construction, selection of materials, and feelings of freedom to innovate and experiment.

Factor 13 - Performance and Development assesses the effectiveness of procedures used to evaluate teacher performance and stimulate the professional growth of teachers in the system.

Factor 14 - Financial Incentives reflects the teacher's attitudes toward the school system's salary and benefits program and its administration.

"Factor 15 - Reactions to Survey" measures the teacher's evaluation of the attitude survey process as a means of communicating with the administration and getting action on problems.[1]

An inspection of the PTO and SS factor descriptions indicates that there might be considerable overlap between what both scales are measuring. Specifically, eight PTO factors appear roughly equivalent in item content to 11 SS factors as shown below:

Purdue Teacher Opinionaire Factors	School Survey Factors
Teacher Load	Professional Work Load Non-Professional Work Load
School Facilities and Services	Materials and Equipment Buildings and Facilites
Curriculum Issues	Educational Effectiveness Voice in Educational Program
Community Pressures Community Support of Education	Administrative Practices School-Community Relations
Teacher Rapport With Principal	Principal Relations
Rapport Among Teachers	Colleague Relations
Teacher Salary	Financial Incentives

The PTO measures two factors named Satisfaction With Teaching and Teacher Status which, for the most part, are not described by items in the SS. The

[1]Two items were added to the questionnaire after the third factor analysis to gauge the teacher's acceptance of the attitude survey process. These items were treated as a factor in the present analysis.

latter instrument, on the other hand, assesses factors dealing with Evaluation of Students, Special Services, and Performance and Development which are covered by only a few items in the PTO.

Speculation through content analysis of possibly comparable factors contained in both instruments led us to pursue further empirical clarification. Specifically, we became interested in obtaining reliable estimates of the degree of overlap between the PTO and SS scales. The basic question which guided our research can be stated as follows:

Is teacher morale as defined and measured by the Purdue Teacher Opinionaire and the School Survey part of the same domain of variables? Or do both scales measure related though separate entities?

In order to seek answers to this question and to generate new hypotheses for further research and experimentation, we conducted the present correlational study: an investigation of the relationship between the PTO and SS scales, two factor-analytically derived, standardized measures of teacher morale. The results of our study should contribute to a better understanding of the factor analytic definition of morale, to the identification of its major dimensions, and to the construction of instruments for its measurement.

METHOD

Instruments

Form A of the PTO and the 1966 edition of the SS were employed in the research. These inventories emerged as the result of the most recently-reported factor analytic studies of both instruments.

Sample

Data on both instruments were collected from a sample of 157 elementary and secondary public school teachers located in three southern Wisconsin, middle-

class school districts. The inventories were administered on a group basis in one sitting and with the provision that the anonymity of the teachers would be preserved. In each location approximately half of the teachers were randomly assigned to fill in the PTO first and then move on to completing the SS; the other half were assigned to the reverse procedure.

Analysis

Both instruments were scored according to the directions provided in their respective manuals. After transformation standard factor scores were obtained for the 10 PTO and 15 SS factors. Canonical correlations were then computed using the 10 PTO and 15 SS scores. The correlations were tested for significance with the Chi-square procedure.

RESULTS

Table 1 presents the means and standard deviations for each of the 25 factors. It reveals that six significant canonical correlations relate the PTO and SS scales. Four of the canonical variates proved to be interpretable. The canonical correlations and significance data for the six significant variates are provided in Table 1 as well as the standardized weights associated with the variates for each of the 25 factors.

In the present analysis, the standardized weights represent the number to multiply by a standard factor score to obtain a canonical variate score. (The canonical variates have a $\bar{X} = 0$ and a S.D. = 1.) A variate may be characterized by thinking of how a teacher would have to respond to score high on the variate: he must score high on factors with + weights and low on factors with — weights.

The first canonical variate is summarized in Table 2.[1] This variate is characterized, on the SS side, by high weights on Colleague Relations, Materials and Equipment, and Educational Effectiveness. On the PTO side, weights are high

[1]Tables 2 through 5 represent the factors and standardized weights for each of the canonical variates.

TABLE 1

MEANS, STANDARD DEVIATIONS, AND STANDARDIZED WEIGHTS
ASSOCIATED WITH THE SIX SIGNIFICANT CANONICAL VARIATES

School Survey	$\bar{X}$	S.D.	I	II	III	IV	V	VI
1. Administrative Practices	4.59	2.78	22	04	03	-74	-06	10
2. Professional Work Load	6.05	1.80	05	05	31	27	-78	-16
3. Non-Professional Work Load	3.87	1.52	01	-01	36	46	-08	40
4. Materials & Equipment	2.80	2.48	33	23	-02	82	61	-51
5. Buildings & Facilities	4.58	2.08	04	14	09	-00	-01	-46
6. Educational Effectiveness	5.84	2.49	28	-47	-01	-42	16	21
7. Evaluation of Students	5.76	2.48	-13	19	09	-09	-31	-06
8. Special Services	3.18	2.15	20	24	-20	-01	22	37
9. School-Community Relations	3.27	1.97	02	06	42	11	-07	27
10. Principal Relations	8.00	2.19	-01	22	-60	09	-48	15
11. Colleague Relations	4.94	2.05	43	-81	14	02	49	-61
12. Voice in Educational Program	4.14	2.23	-15	-07	-45	06	-14	-53
13. Performance & Development	5.56	2.39	-10	-12	-32	38	06	69
14. Financial Incentives	4.76	2.53	19	53	11	-60	-24	01
15. Reactions to Survey	1.20	0.78	03	-15	-02	03	-19	-20
Purdue Teacher Opinionaire								
1. Teacher Rapport With Principal	67.89	12.33	-01	-04	-100	06	-62	14
2. Satisfaction With Teaching	69.52	8.84	-34	20	-17	12	-50	-41
3. Rapport Among Teachers	46.71	7.89	40	-100	27	-29	60	-71
4. Teacher Salary	18.80	5.54	28	57	14	-90	-29	-22
5. Teacher Load	36.24	5.83	13	01	65	28	-62	22
6. Curriculum Issues	13.89	3.86	15	-14	15	40	-24	80
7. Teacher Status	21.87	5.57	-04	03	-26	08	24	47
8. Community Support of Education	12.17	4.27	30	08	13	-27	-03	45
9. School Facilities & Services	12.48	4.17	18	44	01	88	70	-70
10. Community Pressures	16.61	2.73	09	-02	06	05	-04	-42

	I	II	III	IV	V	VI
Canonical correlation	.89	.80	.70	.60	.54	.42
X^2	653.22	432.32	282.61	184.28	121.45	71.82
df	150	126	104	84	66	50
p	.0001	.0001	.0001	.0001	.0001	.0232

In this table, the standardized weights range from +1.00 to —1.00. Decimals are omitted for all the weights in Tables 1 through 5.

TABLE 2

VARIATE 1. -- SUPPORTIVE RELATIONS

School Survey		Purdue Teacher Opinionaire	
Colleague Relations	43	Rapport Among Teachers	40
Materials & Equipment	33	Satisfaction With Teaching	-34
Educational Effectiveness	28	Community Support of Education	30
		Teacher Salary	28

on Rapport Among Teachers, Community Support of Education, and Teacher Salary. One low weight appears on Satisfaction With Teaching.[A] This variate suggests a pattern of support for the teachers in their work, support provided primarily by fellow teachers in the peer work group. The support of peers is apparently enhanced by community support of education as expressed through adequate provisions for salary and for materials and equipment. Satisfaction With Teaching represents, in a sense, the support one might derive from students (subordinates), internalized professional standards, and the intrinsic worth of the teaching career. In order to score high on this variate, the teacher must score low on Satisfaction With Teaching; this suggests a pattern of other-directedness focused on adult rather than on student relationships. We have tentatively named this first variate "Supportive Relations."

The second variate is summarized in Table 3. We have tentatively termed this variate "Pay and Benefits." This variate is characterized, on the PTO side, by high weights on Teacher Salary and School Facilities and Services. On the SS side there is one high-weighted factor: Financial Incentives. Two low weights appear on the SSside -- Colleague Relations and Educational Effective-

TABLE 3

VARIATE II. -- PAY AND BENEFITS

School Survey		Purdue Teacher Opinionaire	
Colleague Relations	-81	Rapport Among Teachers	-100
Financial Incentives	53	Teacher Salary	57
Educational Effectiveness	-47	School Facilities & Services	44

ness -- and one on the PTO side: Rapport Among Teachers. The focus of variate II is toward financial matters and physical working conditions and strongly away from peer group and, to a lesser extent, educational considerations. Whereas variate I seems to be other-directed, variate II appears to be inner-directed. It seems to tap the individualistic and "materialistic" elements of the teacher's work environment.

The third variate is summarized in Table 4. This variate is characterized,

TABLE 4

VARIATE III. -- WORK LOAD

School Survey		Purdue Teacher Opinionaire	
Principal Relations	-60	Teacher Rapport With Principal	-100
Voice in Educational Prog.	-45	Teacher Load	65
School-Community Relations	42	Rapport Among Teachers	27
Non-Professional Work Load	36	Teacher Status	-26
Performance & Development	-32		
Professional Work Load	31		

on the SS side, by high weights on School-Community Relations, Professional Work Load, and Non-Professional Work Load. On the PTO side, the highest weights appear on Teacher Load and Rapport Among Teachers. Three low weights are loaded on the SS side: Principal Relations, Voice in Educational Program, and Performance and Development. Low weights on the PTO side appear on the Teacher Rapport With Principal and Teacher Status factors.

Variate III suggests a strong task orientation, a feeling of job-centeredness. It focuses on the teacher's major roles and responsibilities as well as on the daily administrative routines of his work as prescribed by the school organization. The variate also conveys strong overtones of job independence and autonomy evident in certain forms of professionalism. In order to score high on variate III, the teacher must score low on factors concerning his work and social relations with his principal. Included here would be the ways in which the principal manages the school, communicates with the teachers, evaluates their progress and problems, and provides for their development. We have tentatively called this factor "Work Load."

The fourth variate is summarized in Table 5. This variate is characterized, on the PTO side, by high weights on School Facilities and Services, Curriculum Issues, and Teacher Load. On the SS side there are four high-weighted factors: Materials and Equipment, Non-Professional Work Load, Performance and Development, and Professional Work Load. Three low weights appear on the SS side: Administrative Practices, Financial Incentives, and Educational Effectiveness. On the PTO side Teacher Salary, Rapport Among Teachers, and Community Support of Education all have low weights.

The fourth variate seems to be concerned primarily with the tools of the teacher's technology: materials and equipment, school facilities and services. The school's curriculum, work load requirements, and standards of performance

TABLE 5

VARIATE IV. -- FACILITIES AND EQUIPMENT

School Survey		Purdue Teacher Opinionaire	
Materials & Equipment	82	Teacher Salary	-90
Administrative Practices	-74	School Facilities & Services	88
Financial Incentives	-60	Curriculum Issues	40
Non-Professional Work Load	46	Rapport Among Teachers	-29
Educational Effectiveness	-42	Teacher Load	28
Performance & Development	38	Community Support of Education	-27
Professional Work Load	27		

all are logically related to the availability and use of these tools. At the same time there is a strong trend away from personal, social, and financial considerations. In order to score high on this variate, the teacher must score low on money matters as well as on interpersonal relations with his principal and colleagues. The variate suggests a preoccupation with technology and its use in instruction, with the means rather than the ends of education. We have tentatively name this variate "Facilities and Equipment."

The fifth and sixth variates, although significant, were not interpretable.

DISCUSSION

Previous factor analytic definitions and descriptions of teacher morale indicated that the factors specific to the PTO and SS scales might be measuring the same domain of variables. The present study shows that morale can be predicted from a number of factors common to both instruments. Six significant canonical variates, out of a possible 10, emerged from these sets of factors

as the result of canonical correlational analysis. While it is not our purpose to provide complex interpretations of significant findings until they are replicated, several points are worth mentioning.

The relationship between the PTO and SS as represented by the canonical variates is not as simple as expected. All significant variates result from high weights on several factors rather than from high weights on one factor from each instrument. This parallels another finding resulting from an examination of the intercorrelations between factors of the PTO and SS scales. Here we discovered that there was no one-to-one relationship between the factors of both scales. Nevertheless, these canonical variates can be thought of as second-order principal components. As such, we can consider them to be the components of teacher morale which are measured in common by the two instruments.

Although six significant canonical variates were obtained in the analysis, only the first four were readily interpretable. Among the interpretable variates some combinations of factors from both instruments were somewhat inexplicable. For example, in variate III whatever opinions and attitudes are being measured by School-Community Relations, Non-Professional Work Load, and Professional Work Load in the SS are being measured by Teacher Load and Rapport Among Teachers in the PTO. This would indicate that further explorations are needed to see if the factors in both scales are being accurately described, defined, and named.

Finally, the four interpretable canonical variates have correlations with magnitudes in the acceptable range for alternate forms reliability which is important if the PTO and SS are to be used as pre- and posttests in evaluating attitude change resulting from experimental programs.

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